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Claims

1. A routing method for routing data packets
        from a source terminal (MN1, H1; Enx, Ex)
        to a destination terminal (MN2, H2; MN1, H1)
        via at least one communication network (NW1; NW1,
NW2),
                said at least one communication network
        comprising
                at least one mobility agent entity (HA1,
                HA2, AR1, AR2, ERn, ERm)) for each of said
                terminals,
the method comprising the steps of:
        establishing a route (1, 2, 3, 4; 4, 5, 6, 7)
                from the source (MN1, H1; Ex, ENx)
                        via at least one first mobility agent (AR1;
                ERn) associated to said source,
                        at least two consecutively arranged second
                mobility agents (HA2, AR2; HA1, AR1) associated
                to said destination,
                to said destination (MN2, H2; MN1, H1),
        deciding that said route is to be optimized, and upon
said decision,
                rerouting said route from one of said at least one
first mobility agents (AR1; ERn) directly to one of the at
least two consecutively arranged second mobility agents
(AR2; AR1) such that at least one intermediate mobility
agent (HA2; HA1) in said route is bypassed in the resulting
rerouted route.

2. A method according to claim 1, wherein said decision is
taken at one of said at least two second mobility agents
(HA2, HA1) associated to said destination.

3. A method according to claim 1 or 2, wherein said
decision is based on an indication by the source or
destination to optimize the route or to request for a
specific quality of service for which route optimization is
5   beneficial.

4. A method according to claim 1 or 2, wherein said
decision is based on a service type of the traffic between
the source and the destination.

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5. A method according to claim 4, wherein said decision to
optimize the route is taken in case the service type
indicates a service imposing delay requirements.

15 6. A method according to claim 4 or 5, wherein said service
type indicates real-time traffic.

7. A method according to claim 1 or 2, wherein said
decision is based on an estimated benefit from route
20 optimization between said source and said terminal, and in
case said estimated benefit exceeds a predetermined
threshold value, it is decided to reroute said route.

8. A method according to claim 1, wherein said rerouting
25 comprises the steps of informing one of said at least one
first mobility agents of a current care_of_address of the
destination.

9. A method according to claim 8, wherein said informing
30 comprises the steps of sending a message from one of said
consecutively arranged second mobility agents to one of
said first mobility agents including the current
care_of_address of the destination.

10. A method according to claim 3, wherein said indication triggering the deciding for route optimization is included in a resource reservation signaling.

5   11. A routing system for routing data packets
          from a source terminal (MN1, H1; Enx, Ex)
          to a destination terminal (MN2, H2; MN1, H1)
          via at least one communication network (NW1; NW1,
     NW2),
10   said at least one communication network
          comprising
                    at least one mobility agent entity (HA1,
               HA2, AR1, AR2, ERn, ERm)) for each of said
               terminals,
15   the system comprising:
          route establishment means adapted for establishing a
     route (1, 2, 3, 4; 4, 5, 6, 7)
                    from the source (MN1, H1; Ex, ENx)
                         via at least one first mobility agent (AR1;
20   ERn) associated to said source,
                         at least two consecutively arranged second
               mobility agents (HA2, AR2; HA1, AR1) associated
               to said destination,
                    to said destination (MN2, H2; MN1, H1),
25   decision means adapted for deciding that said route is
     to be optimized, and,
               rerouting means, adapted to perform in response to
     said decision a rerouting of said route from one of said at
     least one first mobility agents (AR1; ERn) directly to one
30   of the at least two consecutively arranged second mobility
     agents (AR2; AR1) such that at least one intermediate
     mobility agent (HA2; HA1) in said route is bypassed in the
     resulting rerouted route.

12. A system according to claim 11, wherein said decision means is located at one of said at least two second mobility agents (HA2, HA1) associated to said destination.

5 13. A system according to claim 11 or 12, wherein said decision is based on an indication by the source or destination to optimize the route or to request for a specific quality of service for which route optimization is beneficial.

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14. A system according to claim 11 or 12, wherein said decision is based on a service type of the traffic between the source and the destination.

15 15. A system according to claim 14, wherein said decision to optimize the route is taken in case the service type indicates a service imposing delay requirements.

16. A system according to claim 14 or 15, wherein said
20 service type indicates real-time traffic.

17. A system according to claim 11 or 12, wherein said decision is based on an estimated benefit from route optimization between said source and said terminal, and in
25 case said estimated benefit exceeds a predetermined threshold value, it is decided to reroute said route.

18. A system according to claim 11, wherein said rerouting means comprises informing means adapted for informing one
30 of said at least one first mobility agents of a current care_of_address of the destination.

19. A system according to claim 18, wherein said informing means comprises sending means adapted to send a message
35 from one of said consecutively arranged second mobility

agents to one of said first mobility agents including the current care_of_address of the destination.

20. A system according to claim 13, wherein said indication triggering the decision means for deciding for route optimization is included in a resource reservation signaling.